

Claims 1-9 remain in this application, of which Claims 1, 5 and 9 are in independent form. Favorable reconsideration is requested.

Claims 1-8 were rejected under 35 U.S.C. § 112, first paragraph, on the ground that the application as filed does not convey to one of ordinary skill that the inventor had possession of the claimed invention at the time of filing. This is not a lack-of-enablement rejection, but one for lack of an adequate written description. See MPEP § 2163.

Applicant notes that the rejection under Section 112 is legally improper, since the rejected claims were filed as part of this application originally, and thus themselves provide the necessary disclosure. MPEP § 2163, part I, at page 2100-159 (citing *In re Koller*, 613 F.2d 819, 204 USPQ 702 (CCPA 1980)).

In the paragraph setting out this rejection, the Examiner also questioned support in the specification for certain of the recitations of Claims 1 and 5. Applicant respectfully points out that literal support for the claim recitations in question appears at page 9. In addition, an example of an embodiment of the subject matter respectively recited in Claim 1 and in Claim 5 is shown in Fig. 2 and described, in part, at page 13, lines 19-23 (producing two-bit data, which as used in this embodiment represents three sizes of printing dots, and thus data of three levels). The last paragraph of each of those claims is illustrated by Fig. 6 and the description from page 19, line 4, through page 22, line 9.

Accordingly, withdrawal of the rejection under Section 112 is respectfully requested.

Claims 1-9 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 5,621,542 (Ohta et al.). This rejection is respectfully traversed.

As is described at length in the present application, conventional error-diffusion processing, which is a technique that can be (and is widely) used in the quantization of data to provide data in a form suitable for output by various type of printers, various visual artifacts (i.e., phenomena derived from the image processing and not representing the content of the original image itself) are produced, detracting from the image quality. It is the purpose of the present invention to improve such processing, by reducing the production of such artifacts.

Independent Claim 1 is directed to an image processing apparatus that comprises input means for inputting image data, and processing means for quantizing error-correction data obtained by adding error data to the input image data, so that data having at least two levels are generated. Also provided in the apparatus are allocation means for allocating the error data generated when the quantization is performed to image data which are not quantized. Claim 1 also recites that in response to a predetermined level of the error-correction data, the processing means outputs, as a result of quantization, a *different level from a level resulting from fundamental processing* for the predetermined level so as to prevent a pseudocontour from being generated.

Applicant considers that Fig. 6 provides a good illustration of the operation of one embodiment of apparatus (although it is to be understood, that the scope of the claims is by no means limited by the details of this embodiment). According to Fig. 6, when the input value is not less than -42 and not more than 42, the output level is 00. When the input value is not less than 84 and not more than 127 except for 100, the output level is 01. When the input value is not is not less than 128 and not more than 212, the output level is 10 and when the input value is not less than 213 and not more than 297, the

output level is 11. That is, it is the feature of the present invention that the input value is 100, the output level is 10, while normally the output level is 01 in such a condition.

By virtue of the above feature, noise components are added to the output data so as to prevent a pseudocontour from being generated.

According to Fig. 9 of the present application, when the input value is not less than -1 and not more than 63, the output level is 00. When the input value is not less than 64 and not more than 190, the output level is 10. When the input value is not less than 191 and not more than 318, the output level is 01. (In Fig. 9, "10" means printing only in light color ink and "01" means printing only in dark color ink., respectively)

Fig. 10 shows that when the input value is not less than -1 and not more than 63, the output level is 00. When the input value is not less than 64 and not more than 190, the output level is 10. When the input value is not less than 191 and not more than 318, the output level is 11.

On the other hand, *Ohta* merely relates to an example of prior technology, in which output results increase regularly in accordance with an increase in the value of the input data. The processing therein (which is described briefly in the Background of the Invention section of the present application) does not appear to provide two separate manners of processing, as in the apparatus of Claim 1, and does not appear to contain any explicit teaching that what might be termed a "normal-processing" output, should be replaced with a different output under predetermined conditions, as is recited in Claim 1. Nor does anything in *Ohta* appear to be directed specifically to prevention of pseudocontours, much less actually teach that a pseudocontour can be avoided by using a particular type of processing. Thus, Applicant submits that *Ohta* merely describes a prior-

art technique of the type over which the apparatus of Claim 1 represents an advance. In the *Ohta* approach, error diffusion processing is performed, as is illustrated in Fig. 5. If this corresponds to anything in Claim 1, it is to 'fundamental' processing; nothing in *Ohta* is believed to teach or suggest that this fundamental, or normal, processing, should be departed from when the error data has a specified level, as recited in Claim 1.

Still less, Applicant submits, would anything in *Ohta* teach or suggest any arrangement that would cause the outputting of results, under certain circumstances, different from those of normal error-diffusion processing, in such manner as to inhibit production of pseudocontours. Accordingly, Claim 1 is believed to be clearly allowable over *Ohta*.

Independent Claims 5 and 9 are method claims which recite steps similar in relevant respects to the processing discussed above in connection with Claim 1, and are believed to be patentable for at least the same reasons as discussed above in connection with Claim 1.


A review of the other art of record has failed to reveal anything which, in Applicant's opinion, would remedy the deficiencies of the art discussed above, as a reference against the independent claims herein. Those claims are therefore believed patentable over the art of record.

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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NY_MAIN 346447 v1



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In re Application of:

Docket No. 03560.002420.

TAKATOSHI OHTA

Appln. No.: 09/340,463

Examiner: Douglas Q. Tran

Filed: June 28, 1999

Group Art Unit: 2624

For: IMAGE PROCESSING METHOD AND
APPARATUS

Date: May 5, 2003

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Transmitted herewith is a Response in the above-identified application.

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The fee has been calculated as shown below

CLAIMS AS AMENDED						
	(2) CLAIMS REMAINING AFTER AMENDMENT		(4) HIGHEST NO. PREVIOUSLY PAID FOR	(5) PRESENT EXTRA	RATE	ADDITIONAL FEE
TOTAL CLAIMS	* 9	MINUS	** 20	= 0	x \$9 \$18	\$0.00
INDEP. CLAIMS	* 3	MINUS	*** 3	= 0	x \$42 \$84	\$0.00
Fee for Multiple Dependent claims \$140°/\$280						\$0.00
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT---						\$0.00

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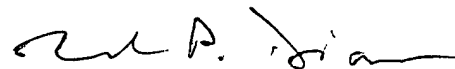
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☒ Applicant's undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100 or by facsimile at (212) 218-2200. All correspondence should continue to be directed to our address given below.



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